Y2K and the Broadcaster

Tom Beauchamp

Director of Engineering

WRAL-TV

Raleigh, NC

How Does Y2K Affect Broadcasting

- Much of the equipment used in broadcasting today is used in conjunction with computers
- Much of that same equipment also operates with software to perform its tasks
- Manufacturers have implemented microprocessors in most broadcast equipment

Where To Start

- Engineering department must devise a Y2K plan for the facility
- All equipment must be inventoried by **manufacturer, model number,** and **serial number**
- Other departments must help identify equipment which they control
- Inventory should be organized in database form for ease of control

---

Engineering Department Year 2000 Plan

Purpose: The Engineering Department Year 2000 plan is to insure an orderly transition of all engineering managed computer based resources into the next millennium.

Definition: The year 2000 problem is composed of three main issues: two-digit date storage, leap year calculations, and special meanings for dates.

The two digit date assumption assumes that the century is always "19". In earlier computing environments this assumption was made due to economic ramifications of the increased storage used to represent the full century. During the last decade, this assumption has been perpetuated by the context in which we have become used to dealing with computer represented dates. This is perhaps the most damaging problem of the three.

Leap years are calculated in the computer by a simple set of rules. However many systems do not recognize the year 2000 as being a leap year. This will cause all dates beyond February 29th, 2000 to be offset by one day.

The third problem on the year 2000 problem is more often found in older storage systems. In order to represent dates more efficiently date fields were often given special functionality. For example, the date 9/9/99 was often used to mean "save this item forever" or "remove this item after 30 days" or some other special meaning. The codes uses and meanings are application specific and thus nonstandard between vendors.

Consequently every piece of hardware, software, and every system running an embedded processor is susceptible to the year 2000 problem.

Strategy: The strategy for dealing with the year 2000 problem will be composed of the following steps:

1. **Year 2000 compliance identification:** Each piece of equipment in the department will need to be identified and classified as to it's year 2000 compliance. The classifications will be divided into five categories: compliant, compliant with minor issues, non-compliant, currently under compliance testing, and untested.
2. **Compliance Testing:** Each staff engineer will be assigned areas of responsibility for compliance testing. The assigned engineer will survey the affected equipment and generate a listing of equipment needing compliance testing. The assigned engineer will then contact the manufacturer of each piece of equipment to jointly determine if the equipment is year 2000 compliant. At this time one of the five categories will be assigned to the equipment as to its year 2000 compliance status.
3. **Steps to Compliance:** If after analysis a piece of equipment is determined to be non-compliant, the vendor will be asked to provide information on how that unit can be made compliant. In the event that the vendor does not have a solution readily available to make the equipment compliant, the vendor will be asked to provide a timetable for compliance to engineering. Engineering management will then determine if the vendor supplied timetable is viable or if the equipment should be designated as non-compliant.

Num	Manufacturer	Street	City	State/Zip	Location	Type	Model	Serial #
315	Abekas				ENG Equip	DVE	A53D	AGCN103
316	Abekas				ENG Equip	Combiner	A53D	AGCN104
318	Abekas				ENG Equip	Key Ch	A53D	ARCN838
322	Abekas				ENG Equip	Recorder	A-62	
323	Abekas				ENG Equip	Recorder	A-62 DK	
324	Abekas				ENG Equip	Recorder	A-62 DK	
325	Abekas				ENG Equip	Interface	Interface	
314	Abekas				ENG Equip	DVE	A53D	AGCP267
317	Abekas				ENG Equip	DVE	A53D	10012
55	Accom				Graphics	Extreme	WSD	5137
414	ADDA/Harris				QC Room		VW-1	13
415	ADDA/Harris				QC Room	Frame Syr	VW-1	115
200	Adda-Harris				ENG Equip	Frame Syr	VW1	
201	Adda-Harris				ENG Equip	Frame Syr	VW1	
202	Adda-Harris				ENG Equip	Frame Syr	VW3	2167
203	Adda-Harris				ENG Equip	Frame Syr	VW3	2168
31	ADDS				Weather	Contel Ten	1010	K128899
430	Alamar				MCR		RT-100	
433	Alamar				MCR		SC2100	
434	Alamar				MCR		SC2100	
435	Alamar				MCR		SC2100	
436	Alamar				MCR		SC2100	
437	Alamar				MCR	Computer		
41	Apple Computer				Graphics	Powermac	63	XB8072C7AZ3
42	Apple Computer				Graphics	Powermac	63	XB80729KAZ3
33	ATI				Weather	Hub	GOGQ607	3612TR
49	ATI				Graphics	Hub	3612TR	G0074236
50	ATI				Graphics	Hub	3612TR	N01961006
56	ATI				Graphics	Hub	3612TR	
57	ATI				Graphics	Hub	3624TRS	

Contacting The Manufacturer

- Personnel must contact each manufacturer
  - Give manufacturer model and serial number
  - Get verbal account of Y2K compliance
  - Ask for letter of Y2K compliance
- Note on list the Y2K compliancy results
- This may take some time
  - In some cases the manufacturer must test the Y2K compliance

Forms of Compliance

- **Compliant**
  - Manufacturer has designated that equipment is compliant
  - Engineering has performed date coding testing
  - Engineering has performed leap year testing
  - Under testing there has not been evidence of equipment malfunction

Forms of Compliance

- **Compliant with minor issues**
  - Manufacturer has designated that equipment is compliant
  - Engineering has performed date coding testing
  - Engineering has performed leap year testing
  - Under testing there has been evidence of equipment malfunction
  - Malfunction is determined to have little impact on the equipment's operation

Forms of Compliance

- **Non-compliant**
  - Manufacturer has designated that equipment is not compliant
  - Manufacturer provides information on efforts to bring equipment into compliance
  - Manufacturer may not attempt to bring equipment into compliance (non-supported)
  - Equipment is identified for retirement or replacement prior to December 31, 1999

Results of WRAL-TV Y2K Plan

- Manufacturers have been eager to help determine equipment compliance
- Much of the equipment is compliant or compliant with minor issues
- Most of equipment determined to be non-compliant had been discontinued earlier
- Replacement of non-compliant equipment budgeted for replacement in 1999

WRAL-TV Towers
Obstruction Lighting

- Transmitting tower (2000') equipped with Flash Technology strobe lighting
- Monitoring software and controllers are Y2K compliant
- "No date sensitive issues"
- Smaller Studio to Transmitter Link (300') and Transmitter to Studio Link (300') towers use only mechanical flashers for beacons

Tom Beauchamp
Director of Engineering
WRAL-TV and WRAL-HD
P.O. Box 12000
Raleigh, NC 27605
(919) 821-8697
Beauchamp@wral-tv.com
www.wral-hd.com